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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,502	08/07/2003	Tac Wook Kim	HI-0139	1413
34610	7590	02/27/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			RIVERO, ALEJANDRO	
			ART UNIT	PAPER NUMBER
			2684	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/635,502		KIM, TAC WOOK	
	<b>Examiner</b>		<b>Art Unit</b>	
	Alejandro Rivero		2684	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-11 is/are allowed.
- 6) ☒ Claim(s) 1, 12-16 and 21 is/are rejected.
- 7) ☒ Claim(s) 17-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.
2. The abstract of the disclosure is objected to because it contains the phrase "The present invention" in line 1. Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities:
  - In line 6 of paragraph [9], replace "sector in the" with "sector is in the".
  - In line 2 of paragraph [18], replace "self" with "shelf".
  - Lines 1-2 of paragraph [26] need revision.
  - In line 5 of paragraph [61], replace "436b operated" with "436b are operated".
  - Lines 4-6 of paragraph [63] need revision.Appropriate correction is required.

### ***Drawings***

4. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. Claims 1-21 are objected to because of the following informalities:

In claims 1-21, the examiner respectfully suggests replacing all occurrences of "LPA" with "linear power amplifier" and all occurrences of "FA" with "frequency assignment" in order to maintain uniformity in naming the elements of the claims.

In claim 18 (line 1), the examiner respectfully suggests replacing "of(f)" with "of".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 2 recites the limitation "the number of FAs" in 4. There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination,

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claim 2 will be interpreted as reciting "a number of frequency assignment" instead of the aforementioned phrase.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 16 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ke (US 6,094,097).

Consider claim 1, Ke discloses a linear power amplifier shelf for a mobile communication base station (Column 2 lines 2-10), wherein the LPA shelf controls a path of at least one sector signal according to LPA types determined by LPA installation and a number of frequency assignments (Column 1 lines 20-58), provides the at least one sector signal to corresponding LPAs via the controlled path (Column 1 lines 20-58), and amplifies the at least one sector signal to a predetermined level to output the at least one amplified sector signal (Column 1 lines 58-65).

Consider claim 16, Ke discloses a method for switching LPA type of a mobile communication base station (Abstract, column 2 lines 2-10) the method comprising the steps of: determining a to-be-changed LPA type (1:1, 1:2, 1:3) based on a current LPA type and the number of FAs (RFin) according to open collector signals generated from each LPA and switching the LPA type according to the determined LPA type (Abstract, column 2 lines 11-65, figure 1 elements 10, 110, 112, 114, 115 and 118).

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Consider claim 21, Ke discloses all the limitations as applied to claim 16 above and also discloses wherein the open collector signals are generated whenever each LPA is installed (Abstract, column 2 lines 11-65, where Ke inherently teaches installing each LPA since the LPAs must be installed in order to be used).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ke in view of Blount et al. (US 6,895,230 B1).

Consider claim 12, Ke discloses a method for managing an LPA shelf for a mobile communication base station (Column 2 lines 2-10), the method comprising the steps of: setting paths of at least one sector signal received according to LPA types (1:1, 1:2, 1:3) determined by LPA installation and the number of FAs (RFin) (Column 1 lines 20-58); switching a first sector signal provided via a first path of the set paths to a



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corresponding LPA; the second sector signal being provided via a second path of the set paths (Column 1 lines 20-58); amplifying at least one sector signal provided via either the first path or the second path to a predetermined level (Column 1 lines 58-65); switching the at least one amplified sector signal (Abstract, column 2 lines 11-65, figure 1 elements 10, 110, 112, 114, 115 and 118); and combining the at least one amplified sector signal according to the sectors (Column 3 lines 26-28, figure 1 element 12).

However, Ke does not disclose adjusting a phase of a second sector signal so as to correspond to the first sector signal.

Blount et al. disclose adjusting a phase of a second sector signal so as to correspond to the first sector signal (Abstract, column 1 lines 47-65).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust a phase of a second sector signal so as to correspond to the first sector signal as taught by Blount et al. in the method of Ke in order to correct phase differentials and avoid signal degradation (as suggested by Blount et al. in Column 1 lines 47-65).

Consider claim 13, Ke et al. in view of Blount et al. disclose all the limitations as applied to claim 12 above and also disclose determining a current LPA type (1:1, 1:2, 1:3) according to the LPA installation; and determining a to-be-changed LPA type based on the current LPA type and the number of the FAs (RFin) (Abstract, column 2 line 11-column 3 line 57, figure 1 elements 10, 110, 112, 114, 115 and 118 of Ke).

Consider claim 14, Ke et al. in view of Blount et al. disclose all the limitations as applied to claim 12 above and also disclose wherein, if the LPA type is a 1:1 type and a

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redundancy type, the path of the at least one sector signal is set to only the first path (Abstract, column 2 line 11-column 3 line 57, figure 1 elements 10, 110, 112, 114, 115, 118 and 120 of Ke).

Consider claim 15, Ke et al. in view of Blount et al. disclose all the limitations as applied to claim 12 above and also disclose wherein, if the LPA type is a 2 way combiner type, the path of the at least one sector signal is simultaneously set to the first and second paths (Abstract, column 2 line 11-column 3 line 57, figure 1 elements 10, 110, 112, 114, 115, 118 and 122 of Ke).

### ***Allowable Subject Matter***

13. Claims 2-11 would be allowable if rewritten or amended to overcome the claim objections and rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

14. Claims 17-20 would be allowable if rewritten to overcome the claim objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Chun (US 2004/0014500 A1) discloses an adaptive power pooling apparatus and method in a mobile communication system for uniformly distributing sector loads.

Shurvinton (US 2003/0058811 A1) discloses control of a multi-carrier power amplifier.



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Khorram (US 6,996,379 B2) discloses a linear high-powered integrated circuit transmitter.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alejandro Rivero whose telephone number is (571) 272-2839. The examiner can normally be reached on 8:30AM-5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AR

*Nick Corsaro*  
NICK CORSARO  
PRIMARY EXAMINER